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Part IV of the valuable Bibliography of America Economic Entomology has been recently issued by the Department of Agriculture. It includes authors from A to K, and shows the same careful compilation by Dr. Samuel Henshaw as the previous issues of the series.

An important Report upon the Parasitic Hymenoptera of the Island of St. Vincent by Messrs. Riley, Ashmead and Howard has recently been issued by the Linnæan Society (*Journal Zoology*, XXV, pp. 55-254). The material was collected by Mr. H. H. Smith, and contained six new genera and 299 new species.

EMBRYOLOGY.

Origin of Twins.—Jacques Loeb of the University of Chicago contributes to the fourth part of Roux's new periodical—*Archiv. für Entwicklungsmechanik der Organismen*—an illustrated article in which the results of his experiments upon echinoderm eggs are set forth along with a hypothesis of the mechanical origin of double embryos.

He found that when the eggs of the sea-urchin "*Arbacia*" were put into water less salt than normal the membrane might burst as if from osmotic pressure and part of the egg protoplasm ooze out from the rent. In case this extruded part remained in continuity with the rest of the egg farther development might result in the formation of a double larva.

Many most interesting double and triple larvæ so produced are figured with the abnormal skeletal structures seen in them.

The author then adopts the ideas of Quincke in an attempt to explain the production of double monster in general and in the higher animals in special.

Quincke regarded certain protoplasm movements as similar to those of oil and water when mixing in the presence of soda or of albumen. In such cases more or less violent "extension currents" are produced: currents which Bütschli would assume in the movements of the pseudopodia of an amœba on his hypothesis that protoplasm has a vesicular structure.

Professor Loeb assumes that mechanical currents are normally present in the process of cleavage and that in the abnormal process of double formation there is, for various unknown reasons, an exagger-

ated, violent stage of the same phenomena. When the vortex currents become violent, watery liquid accumulates between the cleavage cells so that they are separated and henceforth develop separately to form a twin.

It is to be regretted that the excellent observations recorded do not bear more forcibly upon the hypothesis advanced.

PSYCHOLOGY.¹

Mental Development in the Child and the Race : Methods and Processes. BY JAMES MARK BALDWIN, M.A., PH.D., STUART PROFESSOR OF PSYCHOLOGY IN PRINCETON UNIVERSITY.²—Prof. Baldwin's latest book will prove of no less interest to the biologist than to the psychologist. There is a growing feeling that biology, the science of life at large, and psychology, the science of the inner life, since they deal with facts of the same order, must ultimately express these facts in essentially the same conceptions. To biology we must look for the most generalized expression of those conceptions; it will be the duty of the psychologist to apply them in his narrower field and to restate them with such additions and limitations as the facts demand. Yet, just because his field is the narrower, we may expect of him suggestions which will aid the biologist in his work. This is what Prof. Baldwin has undertaken to do. While studying imitation in the infant, he tells us, he was struck by the important part played by it in the development of the individual. This led him to read again "the literature of biological evolution with view to a possible synthesis of the current biological theory of organic adaptation with the doctrine of the infant's development," and this book is the outcome. It is full of original and suggestive material and I think I can do no better than give the readers of the *NATURALIST* a fairly complete outline of its contents.

The arrangement of the book is open to criticism. The first six chapters deal with certain special problems and are intended to develop inductively the fundamental conceptions of dynamogenesis

¹ This department is edited by Dr. Wm. Romaine Newbold, University of Pennsylvania.

² Macmillan & Co., 1895. Price, 2.60.